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Afrotropical Asilidae (Diptera) 30. A review of the genus *Storthyngomerus* Hermann, 1919 (Laphriinae: Laphriini)

by

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ABSTRACT

The small genus *Storthyngomerus* is reviewed and a key presented for the identification of species. Four species are recognised: *S. tridentatus* (Fabricius), which is very widely distributed (known from West, Central, East and Southern Africa, as well as Madagascar); *S. toroensis* Oldroyd, which is closely related to *tridentatus*, but is known only from Uganda and the Congo; *S. minor* Lindner, a diminutive species recorded from the East African countries of Kenya and Tanzania; and *S. potanodrilus*, a new species from South Africa that is closely related to *minor*.

INTRODUCTION AND HISTORICAL BACKGROUND

Storthyngomerus Hermann is a small genus of laphriine asilids known only from the Afrotropical Region. Its history can be briefly summarised in the following way:

Fabricius (1805) –	Described *Dasypogon tridentatus* from Guinea.
Walker (1849) –	Described *Laphria dymes* from Sierra Leone.
Walker (1855) –	Treated *tridentatus* under *Laphria*.
Schiner (1866) –	Stated that *Laphria tridentata* is a *Hoplistomera*.
Kertesz (1909) –	Catalogued *tridentatus* in *Hoplistomerus*, while retaining *dymes* in *Laphria*.
Hermann (1919) –	Provided a new generic name, *Storthyngomerus*, for *tridentatus* (in a footnote on the first page of a review of *Laxenecera*).
Engel (1924) –	Transferred *Laphria testacea* Macquart to *Storthyngomerus*.
Curran (1927) –	Described the genus *Nusina* with *dymes* as type.
Bromley (1935) –	Described *Nusina aurea* from the Democratic Republic of Congo.
Lindner (1955) –	Described *Storthyngomerus minor* from Tanzania.
Hull (1962) –	Redescribed *Storthyngomerus* giving *Nusina* as a synonym and listing *aurea*, *dymes*, *testaceus* and *tridentatus* as the only known species.
Oldroyd (1963) –	Included *Storthyngomerus* in a key to the tribes and genera of African Asilidae.
Oldroyd (1970) –	Discussed the genus; placed *dymes* and *aurea* as synonyms of *tridentatus*; stated that *Laphria testacea* was definitely a species of *Trichardis*; described *toroensis* from Democratic Republic of Congo; provided a key to the three valid species; added new records for *tridentatus* and *minor*.

Oldroyd (1974) – Mentioned *tridentatus* in a coverage of southern African Asilidae (a footnote associated with a key to genera (p. 14)). In discussing *Laphria*, he stated that *Storthyngomerus* had not yet been recorded from southern Africa.

Oldroyd (1980) – Catalogued three valid species in *Storthyngomerus*: *minor*, *toroensis* and *tridentatus*, listing *dymes* and *aurea* as synonyms of *tridentatus*.

Londt (1988) – Included *Storthyngomerus* in an illustrated key to Afrotropical Laphriinae.

Although Oldroyd (1974) was not aware of the occurrence of this genus in Southern Africa, I have for some time known that records exist. It was, therefore, decided to review the genus and in so doing report its presence in the region.

MATERIAL AND METHODS

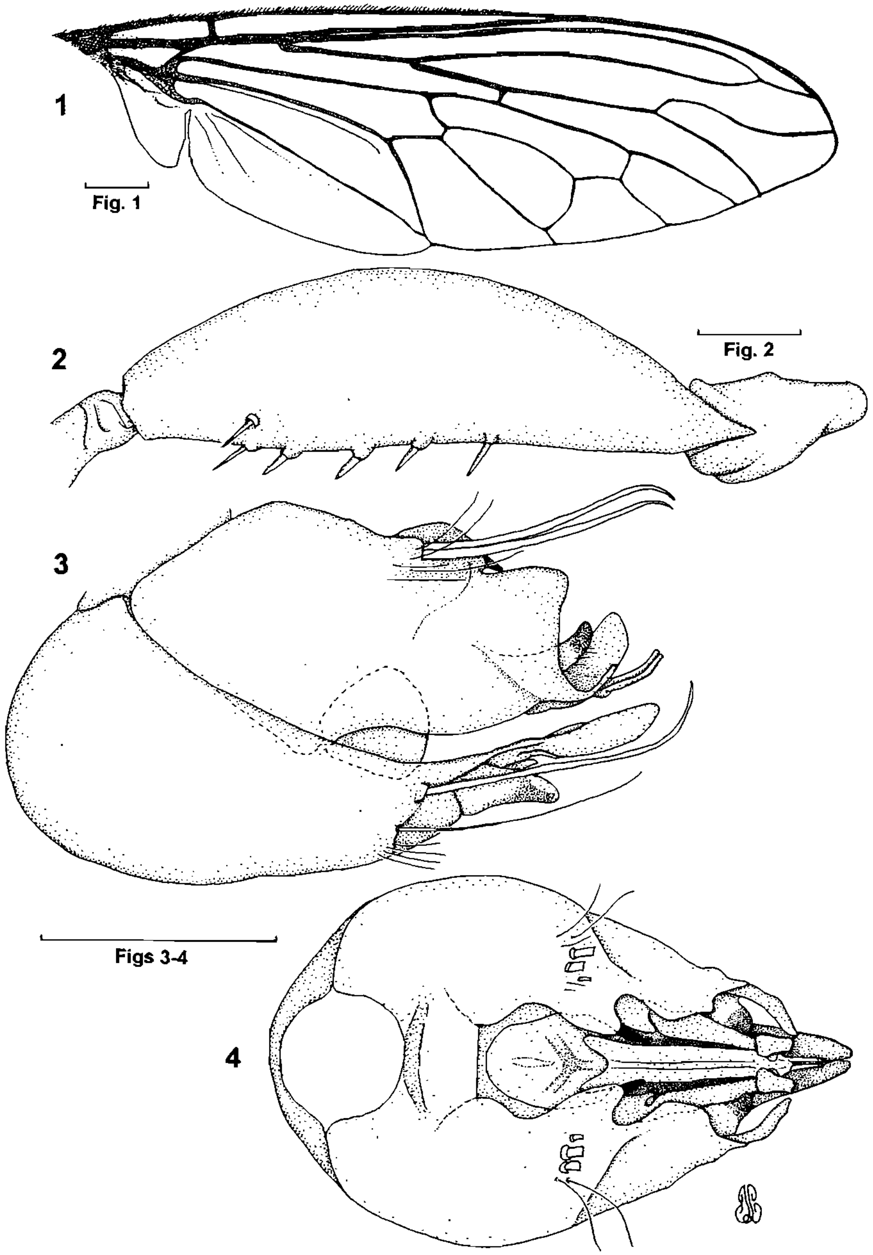
Every effort was made to locate and examine all available material. Eighty eight specimens were accumulated. Institutions which provided specimens for study are listed below, together with the names of the people who kindly assisted me.

BMNH – The Natural History Museum, London, U.K. (J. Chainey)
CASC – California Academy of Sciences, San Francisco, USA (N. D. Penny)
ISNB – Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium (P. Grootaert)
MNHN – Museum National D'Histoire Naturelle, Paris, France (L. Tsacas)
MRAC – Musée Royal de l'Afrique Centrale, Tervuren, Belgium (E. De Coninck)
NMBZ – National Museum of Zimbabwe, Bulawayo (R. Sithole)
NMKE – National Museum of Kenya, Nairobi, Kenya (M. de Meyer)
NMSA – Natal Museum, Pietermaritzburg, South Africa
PPRI – National Collection of Insects, Pretoria, South Africa (M. W. Mansell)
SMNS – Staatliches Museum fur Naturkunde Stuttgart, Stuttgart, Germany (H.-P. Tschorsnig)

In recording label data a standard format is used, where information contained on each label is demarcated by use of single inverted commas, each line of data being separated by a slash (/). Square brackets are used to indicate useful additional information not found on labels.

In all instances specimens were dry-mounted on pins. Drawings of genitalia were prepared after first removing the terminal segments of the abdomen and clearing them in hot potassium hydroxide. Genitalia so treated were stored temporarily in small plastic vials, containing a mixture of ethanol and glycerine, until completion of the study, when they were sealed in polyethylene genitalia vials, which were then attached to the pins of the source specimens.

The following notes are useful in interpreting descriptive passages: widths of head and face are measured anteriorly at the level of maximum head width; abbreviations used for mesonotal macrosetae are npl = notopleurals, spal = supra-alars, pal = postalars, dorsocentral and acrostichal macrosetae are absent or so poorly developed as to blend in with general fine setation; wing length is measured from humeral crossvein to tip, breadth across widest point; proportional lengths of antennal segments are relative to the scape, which is taken as 1. Terminology generally follows that of McAlpine (1981).



Figs 1–4. *Storthyngomerus tridentatus* (Fabricius). 1. Wing (Lake Sibaya, South Africa ♂). 2. Right metathoracic femur (Charter's Creek, South Africa ♂). 3–4. Male terminalia (Liberia). 3. Lateral view. 4. Dorsal view. Notes: Terminalia rotated through 180°. Scale lines equal 1 mm.

TAXONOMY

Genus *Storthyngomerus* Hermann

Storthyngomerus Hermann, 1919: 337. Type species: *Dasypogon tridentatus* Fabricius, 1805, by original designation.
Nusina Curran, 1927: 7. Type species: *Laphria dymes* Walker, 1849 [= *Dasypogon tridentatus* Fabricius, 1805], by original designation.

Hull (1962) provided an excellent, well-illustrated description of the genus. Londt's (1988) illustrated key allows the genus to be separated from other Afrotropical genera within the subfamily. The following key will serve to separate the four known species.

Key to species of *Storthyngomerus*

1 Larger species: wing length from humeral crossvein to tip > 7 mm; pedicel approximately one-half length of scape 2
– Smaller species: wing length < 7 mm; pedicel approximately one-third length of scape 3
2 Male terminalia as in Figs 3–6; hind femur of ♂ predominantly red-brown (♀ uniformly yellowish) .... **tridentatus** (Fabricius)
– Male terminalia as in Figs 7–8; hind femur of ♂ and ♀ yellowish .... **toroensis** Oldroyd
3 Male terminalia as in Figs 11–12 .... **minor** Lindner
– Male terminalia as in Figs 14–15 .... **potanodrilus** sp. n.

Storthyngomerus tridentatus (Fabricius, 1805)

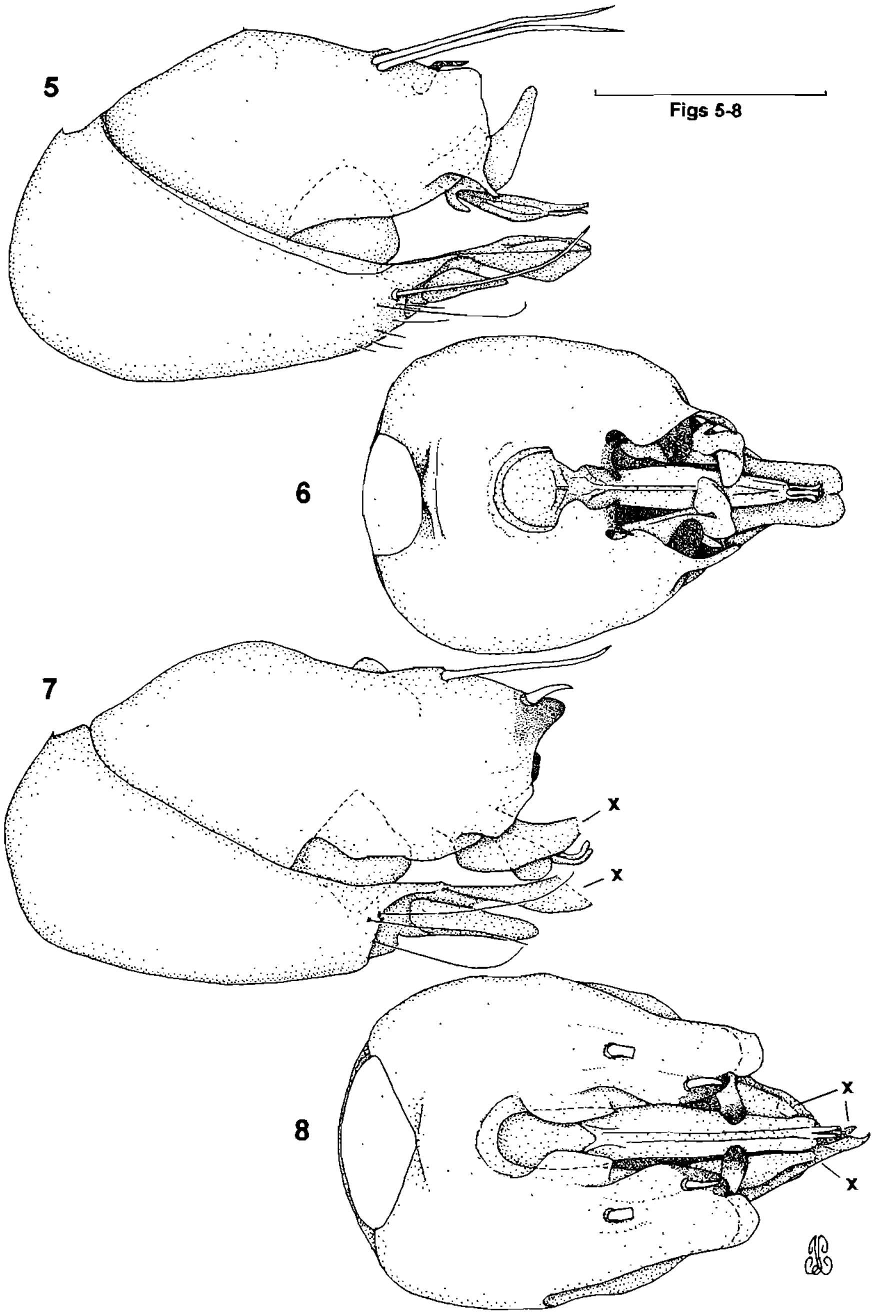
Figs 1–6

Dasypogon tridentatus Fabricius, 1805: 167.
Laphria dymes Walker, 1849: 377–378; Kertesz, 1909: 181.
Laphria tridentatus; Walker, 1855: 544.
Hoplistomera tridentata; Schiner, 1866: 692.
Hoplistomerus dymes; Kertesz, 1909: 160.
Storthyngomerus tridentatus; Hermann, 1919: 337; Hull, 1962: 337–338. Figs 1572 – hind femur and tibia, 2114 – ♂ genitalia; Oldroyd, 1970: 232–233. Figs 10 – ♀ genitalia, 11 – tip of ♂ epandrial lobe, 13 – mesopleuron.
Nusina dymes; Curran, 1927: 7.
Nusina aurea Bromley, 1935: 411–412.
Storthyngomerus dymes; Hull, 1962: 337–338. Figs 253 – antenna, 617 – wing, 1218, 1227 – head, 2141 – ♀ genitalia.
Storthyngomerus aurea; Hull, 1962: 337–338.

Fabricius' description is limited to 32 words and these are reproduced here for the convenience of readers:

> D[asypogon]. *fuscus abdomine atro, pedibus rufis, femoribus posticis tridentatis. Habitat in Guinea Mus. Dom. Lund. Medius. Frons villoso argentea. Caput atrum, Thorax fuscus, obscurus. Abdomen atrum. Alae fuscae. Pedes rufi, femoribus posticis tridentatis.*

Although I have not seen Fabricius' type, Rudolf Meier of the Zoologisk Museum, Copenhagen (Denmark), has informed me that it is in his institution's collection, and is labelled 'D. 3dentatus / Guinea Meier'. He further confirms that the holotype is a female, which can be ascertained from the brief description above (i.e. silver setae on



Figs 5–8. *Storthyngomerus* male terminalia. 5–6. *S. tridentatus* (Fabricius) (Ile-Ife, Nigeria). 5. Lateral view. 6. Dorsal view. 7–8. *S. toroensis* Oldroyd, 1970 (Southern Toro, Uganda, holotype). 7. Lateral view. 8. Dorsal view. Notes: Terminalia rotated through 180°. Damaged parts marked by an x. Scale line equals 1 mm.

frons; reddish legs). The descriptions provided below are based primarily on a ♂ and ♀ from Liberia (BMNH), although some of the illustrations were prepared from other specimens as indicated.

Male:

Head: Dark red-brown to black; pruinescence where present, silver. Mystax: mainly black, located on an epistomal prominence occupying lower half of face. Setation: Face and vertex – predominantly golden; ocellar setae golden; occiput predominantly golden dorsally, white ventrally, and black medially. Width of head : width of face ratio 4.4 : 1. Antenna dark red-brown to black, broken off beyond pedicel; proportional lengths of segments – 1 : 0.5 : 4.6 (Ivory Coast ♂ measured); setae black and golden on scape, mostly black on pedicel, flagellum lacking setae (has microtrichia only) (Ivory Coast ♂). Palpus 2-segmented, black, basal segment with white setae, terminal segment with black setae. Proboscis dark red-brown to black, straight, laterally compressed, white setae proximoventrally.

Thorax: Uniformly dark red-brown to black with areas of silver pruinescence. Mesonotum: uniformly clothed with tiny golden setae, except for anterior parts of postpronotal lobes where setae are black. Macrosetae: 1 yellow npl; 1 black spal; 1 weak black pal. Scutellum black, covered with tiny golden setae, 4 tiny setae on margin (2 black, 2 yellow). Pleura: shiny black with patches of silver pruinescence, setae black, white and yellow. Anepisternum with a single yellow macroseta on hind margin. Katatergum with *ca.* 20 yellow and black macrosetae. Wing (Fig. 1) 8.4 x 3.2 mm; C continues around entire wing margin; cells r_1, d and cup closed and stalked; membrane covered with microtrichia, except for small areas basally, which give wing a yellow-brown appearance. Halter pale yellowish brown. Legs: coxa black, silver pruinose, with white setae; trochanter blackish with small white setae; femur orange with extensive dark red-brown areas, setae yellowish, hind femur (Fig. 2) well developed with stout macrosetae ventrally; tibia and tarsus orange with golden setae (few black on terminal tarsomeres); claws black with orange bases; pulvilli and arolium orange, well developed.

Abdomen: Mostly dark red-brown anteriorly and brown posteriorly. Terga covered with tiny golden setae. Anterior terga with orange macrosetae laterally. Genitalia (Figs 3–4).

Variation: Some individual variation can be detected over the range. This is evident mainly in the coloration of setae, wings, legs and abdomen. Genital structures vary slightly, its extent can be appreciated by comparing Figs 3–4 and Figs 5–6 (a ♂ from Nigeria).

Female:

Similar to ♂ except for the following main differences: *Head*: Golden setae of ♂ are mostly silvery. *Thorax*: Mesonotal setae relatively poorly developed and silvery rather than golden. Scutellar setae silvery. Katatergal macrosetae all black. Femora entirely orange. *Abdomen*: Setae mostly silvery or black. *Variation*: Similar to that in ♂.

Material examined (listed alphabetically by country): **BOTSWANA**: 1♀, 'Khwaai R. 3000' / 19°08'S, 23°48'E', '80m N. of Maun / Botswana', 9-XII-1968 / Pinhey-

Falc Exp / Nat. Mus. Bulawayo' (NMBZ). **CAMEROON**: 1♂, 'French Cameroons: / D'Ja Posten. / Lat. 3.15. N. Long. 13.30.E. / 1–30. VII.1936 / F.G. Merfield' (BMNH). **CONGO (Democratic Republic)**: 1♀, 'Coll. Mus. Congo / Bumba [many places with this name] / XII-1939-I-1940 / H.De Saeger' (BMNH); 1♀, 'Coll. Mus. Congo / Bas-Congo: Lemfu [4°34'S:18°18'E] / II.1945 / Rév P. De Beir' (BMNH); 1♀, 'Coll. Mus. Congo / Bas-Congo / Lemfu VI.1945 / Rév. P.L. De Beir' (ISNB); 1♀, 'Musée du Congo / Elisabethville [Elizabethville – 11°40'S:27°28'E] / 30.IX.1926 / Dr M. Bequaert' (ISNB); 1♀, 'Musée du Congo / Sankuru: Komi [3°23'S:23°46'E] / V.1930 / J. Ghesquiérè' (ISNB); 1♀, same data but XII.1930 (ISNB); 1♀, Musée du Congo / Stanleyville [0°30'N:25°12'E] / 13/23.VIII.1928 / A. Collart' (ISNB); 1♀, 'Musée du Congo / Stanleyville / 9.IV.1915 / Exp. Lang-Chapin' (ISNB); 1♀, 'Musée du Congo / Eala [0°04'N:18°17'E] / VIII.1935/ J. Ghesquiérè, (ISNB); 1♂, 'Musée du Congo / Eala / IV.1933 / A. Corbisier' (ISNB); 1♂, '*Nusina* **holotype** *aurea* Br [Orange]', 'Musée du Congo / Eala / 26.VIII.1914 / R. Mayné', 'Holotype / *Nusina* / *aurea* Bromley [Red.]', 'R. DET. / VV / 2938', '*Nusina* / *aurea* Bromley / Det. S.W. Bromley 1934' (ISNB); 1♀, 'Coll. Mus. Congo / Tshuapa: Ikela [prob. 0°36'S:20°07'E] / 1955 / R.P. Lootens' (ISNB); 1♀, 'Coll. Mus. Congo / Kwango Mwllambongo [?] / IX.1949 / Vanden Borght' (ISNB); 1♂, 'Musée du Congo / Bambesa [3°28'N:25°43'E] / 10.VIII.1937 / J. Vrijdagh' (ISNB); 1♀, 'Congo Belge, P.N.G. [Parc National de la Garamba – 4°10'N:29°30'E] / Miss. H. De Saeger / 1949–1952 / Réc. H. De Saeger', 'Coll. Mus. Tervuren' (ISNB); 1♀, 'B.Congo : 39 km. / S. of Walikale [1°25'S:28°24'E] / 700m. XII-25-57', 'E.S. Ross & / R.E. Leech / collectors' (CASC); 1?, 'Musée du Congo / env. Elisabethville / Tumbwe [7°32'S:29°15'E] 14.XI.1921 / Dr M. Bequaert' (BMNH); 1♂, 'Yangambi [0°47N:24°28'E] / (Congo Belga) / 6.1957 M. Pavan', 'Coll.Mus. Tervuren / don. M. Pavan' (MRAC). **GABON**: 1♂, 'Museum Paris / Gabon / Lambaréné [1°06'S:11°44'E] / E. le Moult 1921' (MNHN). **GAMBIA**: 1♀, 'Gambia / Aboku [Abuko – 13°24'N:16°39'W] / 10–23.XI.1983 / K.M. Guichard' (BMNH). **GHANA**: 1♂, 'Gold Coast / 1913 / A.E. Evans' (BMNH). **IVORY COAST**: 1♀, 'Côte d'Ivoire / loc. Foro foro [7°59'N:5°03'W] / date 9.9.70 / D. Duviard Réc', 'Reserve 100 [? loo] / 7-9.9.70' (MNHN); 1♂1♀, 'Côte d'Ivoire: 28km / W Bouafle Maraoué / Nat. Park. 19.iv.1989 / 06°59'N: 05°54'W / J.G.H. Londt Woodland / and forest margins' (NMSA); 1♀, 'Côte d'Ivoire: Banco / Nat. Park N. Abidjan / S side 23 & 27.iv.1989 / 05°22'N : 04°03'W / J.G.H. Londt Edges of / wide track in forest' (NMSA). **KENYA**: 1♂, 'Kenya Colony', 'Malindi [3°13'S:40°07'E] / 13.5.32' (BMNH); 2♀, 'G.W. Jeffery / Malindi / May 1940' (BMNH); 1♂, 'G.W. Jeffery / Malindi / May 1940' (NMKE); 2♂, 'Kenya / Diani Beach' [4°18'S:39°35'E] / VIII.1951 / N.L.H. Krauss / B.M. 1951- 541' (BMNH); 1♂, 'Kenya / Diani Beach / V. 1957 / N.H.L. Krauss / B.M. 1957-458' (BMNH); 1♂, 'Stoneham / E. Surr. Ests. [?] / Kenya Colony. / Brit. E. Africa. / 22.3.48' (NMKE). **LIBERIA**: 1♂, 'Liberia / W.P. Lowe / 1912–214' (BMNH); 1♀, 'Liberia / Varh [Vaa or Vah – 6°01'N:10°06'W] / 31. VIII.1953 / W. Peters / B.M. 1953-727' (BMNH); 1♀, 'Musée du Congo / Liberia: Du River / Camp. No. 3.1926 / Dr J. Bequaert' (ISNB). **MADAGASCAR**: 1♂, 'Madagascar N. / Diégo Suarez [12°16'S:49°17'E] / Montagne de / Francaise / 12.iv.1991 / A. Freidberg / & Fini Kaplan' (NMSA). **MALAŴI**: 1♀, 'Mlanje [Mountain – 15°58'S:35°38'E] / Nyasaland. / 9.11.1914 / S.A. Neave'

(BMNH); 1♀, 'Mlanje / Nyasaland / 1913 / S.A. Neave.', '28.III.13 / S.A.N.' (BMNH); 1♂1♀, / 'Mlanje / Nyasaland, / 1913 / S.A. Neave.' '27.III.13 / S.A.N.' (BMNH), 1♂, 'Mlanje / Nyasaland / 24.III.1913 / S.A. Neave' (BMNH); 1♀, 'Nyasaland Mt. Mlanje / 17. III.13 / S.A. Neave' (BMNH); 1♂, 'Mlanje / Nyasaland / 25.11.1914 / S.A. Neave' (BMNH); 1♂, 'Nyasaland / Mt.Mlanje / 26.ii.1913 / S.A. Neave' (BMNH); 1♀, 'Mlanje / Nyasaland / 1913 / S.A. Neave', '14.V.13 / S.A.N' (BMNH); 1♀, 'Ruo V [16°33'S:35°09'E] / Nyasaland / 26.X.1913 / S.A. Neave' (BMNH). **MOZAMBIQUE**: 1♂, 'Lourenço Marques [=Maputo – 25°58'S:32°34'E] / 1914 / H.A. Junod / April-July', 'C.J. Wainwright / Collection / B.M. 1948-488' (BMNH); 1♀, 'Portug.E.Afr. / Ruo Valley [16°33'S:35°09'E] / 10.IV.1913 / S.A. Neave' (BMNH); 1♂, 'Mussapa [19°59'S:33°20'E] R. Forest / Serra Rotanda / Mozambique', '12.III.973 / Nat. Mus. Bulawayo / Pinhey-de Moor Exp' (NMBZ); 1♀, 'Museum Paris / Moçambique / Vallée du Pungoué / Guengè [17°08'S:34°42'E] / G. Vasse 1906', 'Décembre' (MNHN); 1♀, 'Marromeu Lower / Zambesi River / Port East Africa', Salone Forest [18°10'S:35°47'E] / Dec. 1959 / Stuckenberg' (NMSA). **NIGERIA**: 1♂, 'Nigeria 7.7.31 / Coll. F.D. Golding. / Zaria [11°15'N:4°16'E]' (BMNH); 1♂, 'Ile-Ife [7°28'N:4°34'E] Nigeria / 15 Jan 1969 / Col. J.T Medler', 'O-83' (BMNH). **SIERRA LEONE**: 1? [damaged ♀] 'Type [circular green border]', 'Sierra Leone', 'Sierra Leone / Pres. by / Rev. D.F. Morgan / 38.II.8. 289', '38 / II 8 / 289 [circular white]', **holotype** / *Laphria / dymes* Walker / det. J.E. Chainey 1984' [red bordered circular Holotype label stuck to top right corner] (BMNH). **SOUTH AFRICA**: 1♂, 'Zululand / Nagana Res.Lab. [27°36'S:32°13'E] / 1922 / H.H. Curson' (BMNH); 1♀, 'Pafuri [*ca.* 22°28'S:31°18'E] / 25.I.67 / Braack', 'HB10' (BMNH); 1♂, 'South Africa, Tvl / Strijdom Tunnel / 24.25S 30.38E / 24–25.xi.1981 / M.W. Mansell' (PPRI); 1♂, 'South Africa, KwaZulu / Lake Sibaya E shore / 27.25S 32.43E, 10.XI / 1984. R. Oberprieler' (PPRI); 1♀, 'Skukuza [24°59'S:31°36'E] / E.Tvl.S.Afr. / 14.11.71 / M. Trap / E. Holm' (PPRI); 1♀, '20km E Naboom / spruit [24°31'S:28°43'E] Tvl. SA / 9.III.1973 / E. Holm' (PPRI); 1♀, 'South Africa, Natal / Cape Vidal, 28.10S / 32.32E 13.I.1981 / I.M. Millar' (PPRI); 1♀, 'So.Africa: Natal, 1,5km / E. Mtunzini [28°57'S:31°46'E] 2831Dd /Umlalazi Nature Res. / Feb. 1979 R.M. Miller / indig. for., Malaise tr' (NMSA); 1?, 'Lake Sibaya [Sibayi – 27°20'S:32°42'E] / Zululand / 13.4.1968 / T. Schofield' (NMSA); 1♀, 'Barberton [25°47'S:31°03'E] / Stentor / May 1925 / L.S. Hulley' (NMSA); 1♂1♀, 'South Africa, Natal / Charters Creek / St. Lucia, 28.12S / 32.25E. 14–16.i./1981 M.W. Mansell' (NMSA); 1♂, 'South Africa, Natal / Zululand, Ndumu Game / Reserve [26°55'S:32°15'E] 26. x.1972 / M.E. Irwin, 2632Cc' (NMSA); 1♂, '3423', 'Malta [24°09'S:30°13'E] Ptbg. / Febr. 1928 / G. v. Son' (NMSA); 1♀, 'South Africa : Natal / 10 km W. Kosi Bay / 26°57'S : 32°47'E / 3–25.iv.1990 Forest / margins L.E. Schoeman' (NMSA). **UGANDA**: 1♀, 'Apr. 1952 / Labwor [county – 2°40'N:33°45'E] Hills / Karamoja Uganda / T.H.E. Jackson' (NMKE). **ZIMBABWE**: 1♂, 'Rekomitjie Research / Station [16°08'S:29°24'E] / 19.i.74 R.J. Phelps' (NMSA).

Other material not studied: Bromley (1935) lists 3 ♂ paratypes of *dymes* from 'Du River (Camp 3), Liberia (J. Bequaert) (in M. C. Z.)'. A ♀ (ISNB) listed above appears to have been part of the same series.

Synonymy:

dymes –	Described on a specimen with abdominal 'tip mutilated'. The specimen has character states typical of *tridentatus* females.
aurea –	Described by Bromley on 4 male specimens. Although Bromley had seen a female (which he identified as *dymes*), from the same locality as three of his paratypes, he did not suspect sexual dimorphism.

Storthyngomerus toroensis Oldroyd, 1970

Figs 7–8

Storthyngomerus toroensis Oldroyd, 1970: 233–234. Figs 12 – tip of epandrial lobe, 14 – mesopleuron.

Oldroyd (1970) provided a good description of *toroensis* based on a unique male from Uganda, and drew attention to the close similarity the species has with *tridentatus*. However, the following redescription (based on the holotype and a female which appears to be conspecific), assists in making direct comparisons with the species covered in this review.

Male (holotype):

Head: Dark red-brown to black; pruinescence where present, silver. Mystax: mainly black, located on an epistomal prominence occupying lower half of face. Setation: Face and vertex – predominantly golden; ocellar setae black; occiput – black except for few golden setae ventrally. Width of head : width of face ratio 4.0 : 1. Antenna dark red-brown to black, broken off beyond pedicel; proportional lengths of segments – 1 : 0.6 : ?; setae mostly black (few golden) on scape, black on pedicel. Palpus 2-segmented, dark red-brown, basal segment with yellowish setae, terminal segment with black setae. Proboscis dark red-brown to black, straight, laterally compressed, pale yellowish setae proximoventrally.

Thorax: Uniformly dark red-brown to black with areas of silver pruinescence. Mesonotum uniformly clothed with tiny golden setae, except for postpronotal lobes where setae are all black. Macrosetae: black, 1 npl; 1 spal; 1 short pal (? broken). Scutellum black, covered with tiny golden setae, few (difficult to count) tiny black setae on margin. Pleura shiny black with patches of silver pruinescence, setae black. Anepisternum with single black macroseta on hind margin. Katatergum with *ca.* 20 black macrosetae. Wing 9.5 x 3.6 mm; C continues around entire wing margin; cells r_1, d and cup closed and stalked; membrane covered with microtrichia, except for small areas basally, which give a yellow-brown appearance. Halter red-brown distally, orange proximally. Legs: coxa black, silver pruinose, with pale yellow-white setae (few black); trochanter blackish with small yellowish setae; femur uniformly orange, setae yellowish, hind femur well developed with stout macrosetae ventrally; tibia and tarsus orange with golden setae (terminal tarsomeres darker and with few black setae); claws black with orange bases; pulvilli and arolium orange, well developed.

Abdomen: T1 dark red-brown to black, otherwise orange-brown. Terga covered with tiny, pale yellow setae. Anterior terga with orange macrosetae laterally. Genitalia (Figs 7–8).

Female:

Similar to ♂ except for the following main differences. *Head*: Golden setae of ♂ mostly pale yellowish. Antennal setae all black; proportional lengths of segments– 1 : 0.5 : 5.5. *Thorax*: Mesonotal setae relatively poorly developed and all black. Scutellar setae black. Prothoracic tibiae and tarsi dark red-brown, mesothoracic tibiae and tarsi brown. *Abdomen*: All terga orange-brown; setae tiny, colour probably pale yellowish (not clearly seen).

Material examined: **UGANDA**: 1♂, 'Holo- / type' [Red bordered circular label], 'Uganda Prot. / Southern Toro, / Mbarara [0°37'S:30°39'E] / Ft.Portal Rd.', ' 3,800–4,200 ft / 22–24.Oct.1911 / S.A. Neave', '1912-193', '*Storthyngomerus / toroensis* sp.nov. / det. H. Oldroyd. 1964 / **holotype**' (BMNH). **CONGO (Democratic Republic)**: 1♀, 'Musée du Congo / Lulua [5°56'S:25°47'E]: Kapanga / XI.1932 / F.G. Overlaet', '*Storthyngomerus* / prob. *toroensis* Old / det. J.E. Chainey, 1984' (BMNH).

Storthyngomerus minor Lindner, 1955

Figs 9–12

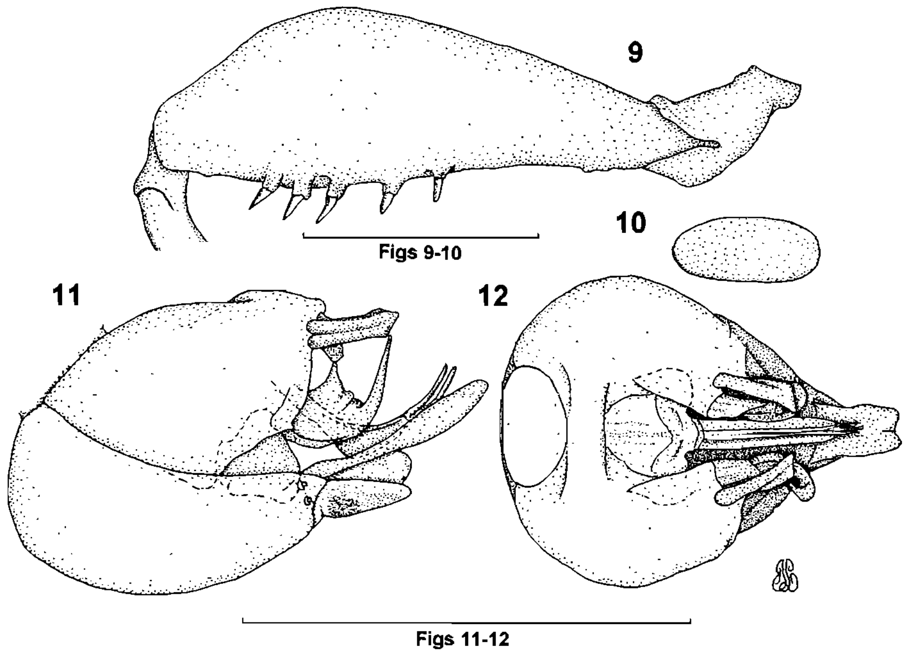
Storthyngomerus minor Lindner, 1955: 35–36. Fig. 3 – head; Oldroyd, 1970: 234. Fig. 15 – ♂ genitalia.

Lindner's unique holotype is female. Since its description a number of additional specimens have been collected. The brief descriptions that follow are based on Lindner's holotype and other material available.

Female:

Head: Black; pruinescence where present, silver. Mystax: mainly black, located on an epistomal prominence occupying lower third of face. Setation: Black except for pale white setae on face (some dorsoventrally flattened and silvery) and lower occiput. Ocellar setae black. Width of head : width of face ratio 5.2 : 1. Antenna dark red-brown to black; proportional lengths of segments – 1 : 0.3 : 2.6; setae black, confined to scape and pedicel, flagellum with microtrichia only. Palpus 2-segmented, black, basal segment with white setae, terminal segment with black setae. Proboscis black, straight, laterally compressed, white setae proximoventrally.

Thorax: Black with areas of silver pruinescence. Mesonotum: uniformly clothed with tiny yellowish setae; postpronotal lobes almost entirely asetose. Macrosetae: black, 1 npl; 1 spal; 1 pal. Scutellum black, with tiny yellow setae, few tiny setae on margin. Pleura: shiny black with patches of silver pruinescence, setae black, white and yellowish. Anepisternum with single black macroseta on hind margin. Katatergum with *ca.* 10 yellow and black macrosetae. Wing 4.5 x 1.7 mm; C continues around entire wing margin; cells r_1, d and cup closed and stalked; membrane covered with microtrichia, except for small areas basally, which give a yellow appearance. Halter pale yellowish. Legs: coxa black, silver pruinose, with white setae; trochanter black with small white setae; femur dark red-brown to black with basal third brown-yellow, setae black and yellow, hind femur (Fig. 9) well developed with stout yellow macrosetae ventrally; tibia and tarsus red-brown, brown-yellow proximally; claws black with brown bases; pulvilli and arolium yellow-brown, well developed.



Figs 9–12. *Storthyngomerus minor* Lindner. 9. Right metathoracic femur (Sokoke Forest, Kenya ♂). 10. Egg (Dar-es-Salam, Tanzania ♀). 11–12. Male terminalia (Diani Beach, Kenya). 11. Lateral view. 12. Dorsal view. Notes: Terminalia rotated through 180°. Scale lines equal 1 mm.

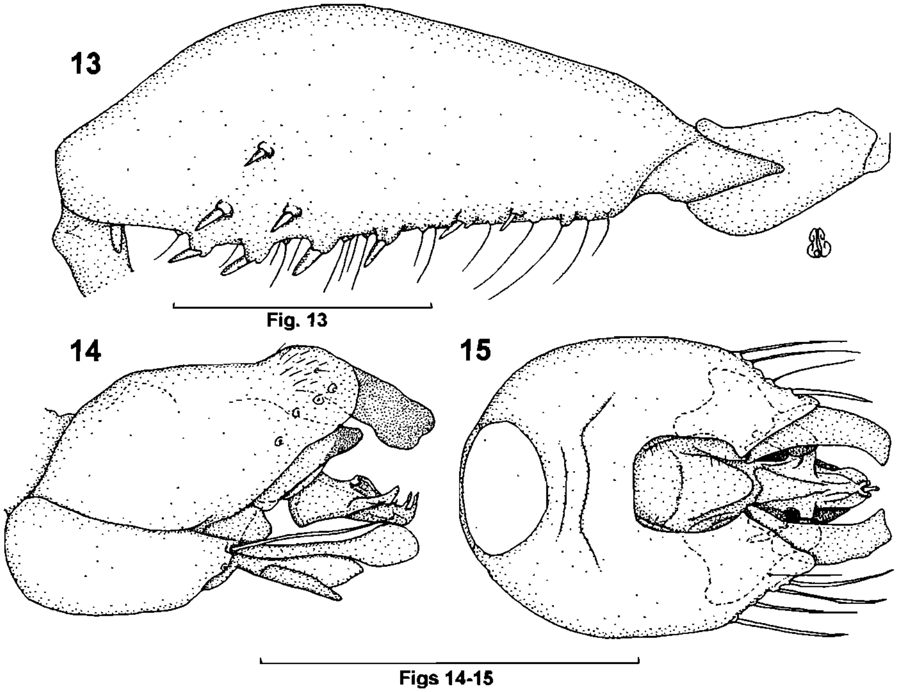
Abdomen: Shiny dark red-brown; somewhat club-shaped (T6 being widest point). Terga covered with tiny yellowish setae. Anterior terga with a single orange macroseta laterally. Genitalia black, largely missing as a result of dermestid/psocid damage. Egg (removed from damaged abdominal cavity) as in Fig. 10.

Variation: A uniform species lacking obvious variation.

Male (Diani Beach):

Similar to ♀ except for the abdomen which is parallel-sided (not clubbed) and is mostly orange-brown in colour, except for 2 basal terga which are blackish. Genitalia (Figs 11–12).

Material examined: **KENYA**: 1♂, 'Sokoke / forest [3°29'S:39°50'E] / Kenya coast / Sept. 1975 / 21–24 kms / S. of Malindi / M.P. Clifton ' (NMKE); 1♂, 'Sokoke For. Red Sand / 8ml. S. of Malindi / Kenya. 4. 1969 / M.P. Clifton' (NMKE); 1♂2♀, 'Kenya / Diani Beach [4°18'S:39°35'E] / VII.1951 / N.L.H. Krauss / B.M. 1951-541' (BMNH); 2♂, same date but VIII.1951 (BMNH); 1♀, 'Watamu [3°21'S:40°01'E] / Kenya coast / Nov. 1971 / M.P. Clifton' (NMKE). **TANZANIA**: 1♀, 'Dar es Salam [Salaam – 6°48'S:39°17'E] / 11–20.xii.1951 / D.O. Afrika Exp. [blue]', 'Probably / *Storthyngomerus* / new species / det. H. Oldroyd. 1953', '**Typus** / Lindner 1954', '*Storthyngome / rus minor* Lind. / Lindner det.' (SMNS); 1♀, 'Dar es Salaam / 18.xii.1958- / 5.i.1959 / Lindner leg.' (SMNS); 1♀, 'Amani [5°06'S:38°38'E] / 12/21', 'Tanganyika / Territory / A.H. Ritchie' (BMNH).



Figs 13–15. *Storthyngomerus potanodrilus* sp. n. (Mogol Nature Reserve, South Africa ♂ holotype). 13. Right metathoracic femur. 14–15. Terminalia. 14. Lateral view. 15. Dorsal view. Notes: Terminalia rotated through 180°. Scale lines equal 1 mm.

Storthyngomerus potanodrilus sp. n.

(Figs 13–15)

Etymology: Gr. *Potanos* = winged + *drilos* = penis. Refers to the wing-like structures on the penisfillum of this species.

Description based on the unique ♂ holotype:

Head: Black; pruinescence where present, silver. Mystax: Black and pale yellow-white, located on an epistomal prominence occupying lower third of face. Setation: Black and white, some facial setae dorsoventrally flattened and silvery. Ocellar setae black. Width of head : width of face ratio 5.4 : 1. Antenna dark red-brown to black; proportional lengths of segments – 1 : 0.4 : 2.7; setae black, confined to scape and pedicel, flagellum with microtrichia only. Palpus 2-segmented, black, basal segment with white setae, terminal segment with black setae. Proboscis black, straight, laterally compressed, white setae proximoventrally.

Thorax: Black with areas of silver pruinescence. Mesonotum uniformly clothed with tiny yellowish-white setae; postpronotal lobes almost entirely asetose. Macrosetae black, 1 npl; 1 spal; pal apparently absent. Scutellum black, with tiny yellowish setae centrally, some of which extend onto hind margin. Pleura shiny black with patches of silver pruinescence, setae mostly white (few black). Anepisternum with single black macroseta on hind margin. Katatergum with *ca.* 15 yellow and black macrosetae.

Wing 5.1 x 2.0 mm; C continues around entire wing margin; cells r_1, d and cup closed and stalked; membrane covered with microtrichia, except for small areas basally, which give a greyish appearance. Halter pale yellow-white distally, brown proximally. Legs: coxa black, silver pruinose, with white setae; trochanter black with small white setae; femur dark red-brown to black with basal third yellowish, setae yellow, hind femur (Fig. 13) well developed with stout yellow macrosetae ventrally; tibia and tarsus red-brown, brown-yellow proximally; claws black with brown bases; pulvilli and arolium yellow-brown, well developed.

Abdomen: First 3 terga dark red-brown, remainder orange-brown; covered with tiny yellow-white setae. Anterior terga with pale yellow macrosetae laterally. Genitalia (Figs 14–15).

Type material: 1♂ **holotype**, 'South Africa, N.W.Tvl. / Mogol Nature Reserve / Ellisras Dist. 23.58S / 27.45E. 19–23.XI.1979 / C. Kok' 'National Coll. / of Insects / Pret. S.Afr' (NMSA).

DISCUSSION

Distribution

Storthyngomerus is a widely distributed genus (Fig. 16) known from West, Central, East and Southern Africa, as well as Madagascar. *S. tridentatus* has been collected in countries as widely separated as Gambia and Madagascar, the distance between these localities being in excess of 7500 km. Little is known about the distributions of the other three species in the genus. *S. toroensis* is known from only two localities, and it is suspected that the species may be found sympatrically with *tridentatus*. *S. minor* appears to have a distribution restricted to south-eastern Kenya and north-eastern Tanzania; all known localities are not far from the Indian Ocean. *S. potanodrilus* is known only from its type locality in South Africa.

TABLE 1

Seasonality of *Storthyngomerus* species

Species:	J	F	M	A	M	J	J	A	S	O	N	D
S. tridentatus	●	●	●	●	●	●	●	●	●	●	●	●
S. toroensis	–	–	–	–	–	–	–	–	–	●	●	–
S. minor	●	–	–	●	–	–	●	●	●	–	●	●
S. potanodrilus	–	–	–	–	–	–	–	–	–	–	●	–

Seasonal occurrence

Data relating to the seasonal occurrence of adult *Storthyngomerus* is summarised in Table 1. While information for *S. toroensis*, *S. minor* and *S. potanodrilus* is limited, the adults of these species appear to be summer active. Although adults of *S. tridentatus* have been collected throughout the year (Table 1), an analysis of locality records from north of the equator, south of the equator to 15°S, and south of 15°S (Table 2) indicates that this species is also active mainly during the summer months. This is particularly evident in the southern parts of its range.

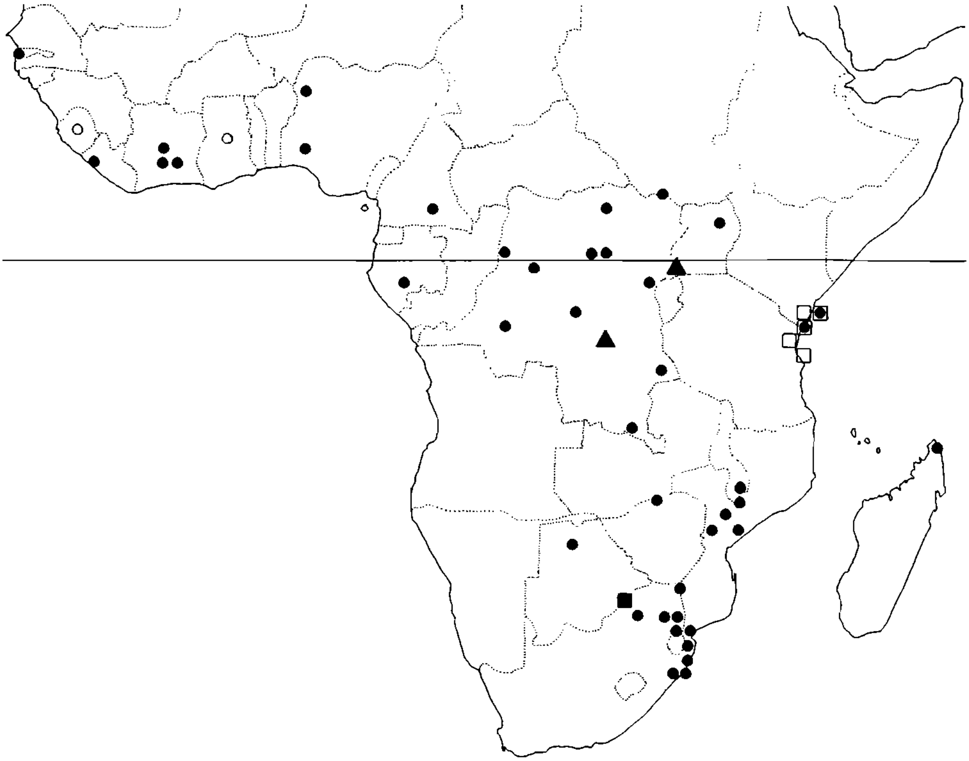


Fig. 16. The distribution of *Storthyngomerus* species. ● – *S. tridentatus* (Fabricius); ○ – *S. tridentatus* country record only – no precise locality data; ▲ – *S. toroensis* Oldroyd; □ – *S. minor* Lindner; ■ – S. potanodrilus.

Habitat preference

Little is known about the habitat preferences of *Storthyngomerus* species. Label data do not assist greatly in trying to establish such information. Distribution data for *S. tridentatus*, coupled with limited personal experience of the species in the field, suggests it to be associated with forests, forest margins or well-wooded areas. In this respect it appears to resemble other genera of the Laphriinae such as *Choerades*, *Notiolaphria*, *Nannolaphria*, *Hyperechia* and *Proagonistes*. *S. toroensis*, a species morphologically very similar to *tridentatus*, probably inhabits similar habitats. Records for *S. minor* also suggest an association with forests, but the close proximity of localities to the Indian Ocean may mean that the species is confined to dune forests. *S. potanodrilus* is known only from the Mogol Nature Reserve which lies in a region dominated by *Acacia* woodland. There are, however, forested ravines within this reserve, where the species may be restricted to.

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TABLE 2

Seasonality of *S. tridentatus*

Country	J	F	M	A	M	J	J	A	S	O	N	D
N of Equator												
Cameroon	–	–	–	–	–	●	–	–	–	–	–	–
Democratic Rep. of Congo	–	–	–	●	–	●	–	●	–	–	–	–
Gambia	–	–	–	–	–	–	–	–	–	–	●	–
Ivory Coast	–	–	–	●	–	–	–	–	●	–	–	–
Liberia	–	–	–	–	–	–	–	●	–	–	–	–
Nigeria	●	–	–	–	–	–	●	–	–	–	–	–
Sierra Leone	–	●	–	–	–	–	–	–	–	–	–	–
Uganda	–	–	–	●	–	–	–	–	–	–	–	–
Subtotal	●	●	–	●	–	●	●	●	●	–	●	–
S of Equator –15°S												
Congo Republic	–	●	–	–	●	●	–	–	●	–	●	●
Kenya	–	–	–	–	●	–	–	●	–	–	–	–
Madagascar	–	–	–	●	–	–	–	–	–	–	–	–
Subtotal	–	●	–	●	●	–	–	●	●	–	●	●
S of 15°S												
Botswana	–	–	–	–	–	–	–	–	–	–	–	●
Malawi	–	●	●	–	●	–	–	–	–	●	–	–
Mozambique	–	–	●	●	–	–	–	–	–	–	–	●
South Africa	●	●	●	●	●	–	–	–	–	●	●	–
Zimbabwe	●	–	–	–	–	–	–	–	–	–	–	–
Subtotal	●	●	●	●	●	–	–	–	–	●	●	●
Summary												
N of Equator	●	●	–	●	–	●	●	●	●	–	●	–
S of Equator –15°S	–	●	–	●	●	–	–	●	●	–	●	●
S of 15°S	●	●	●	●	●	–	–	–	–	●	●	●
TOTAL	●	●	●	●	●	●	●	●	●	●	●	●

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